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The International Asian Business Success Story?

A Comparison of Chinese, Indian, and Other Asian Businesses in the United States, Canada, and the United Kingdom

Robert W. Fairlie, Julie Zissimopoulos, and
Harry Krashinsky

6.1 Introduction

Asians have migrated to numerous countries around the world. The largest migrations have been to some of the wealthiest developed countries, such as the United States, United Kingdom and Canada. Figure 6.1, representing data from the World Bank, reveals that the United States receives the most Asian immigrants (29.7 percent), followed by India (26.3 percent), Hong Kong (8.9 percent), Canada (7 percent), and the United Kingdom (5.6 percent). Therefore, other than intra-Asian movements, the United States, Canada, and the United Kingdom are the three countries that have received the most immigrants from Asia in the world.

Asian's business ownership in the United States is well documented. In particular, Chinese, Indians, and Koreans have been found to have higher rates of business ownership relative to other minority groups and typically on par with or above that of whites in the United States (Kim, Hurh, and Fernandez 1989; Fairlie and Meyer 1996; Hout and Rosen 2000; and Mar 2005). It has been argued that the economic success of Asian immigrants is in part due to their ownership of successful small businesses (Light 1972; Bonacich and Modell 1980; Min 1993). Microdata from the US Census

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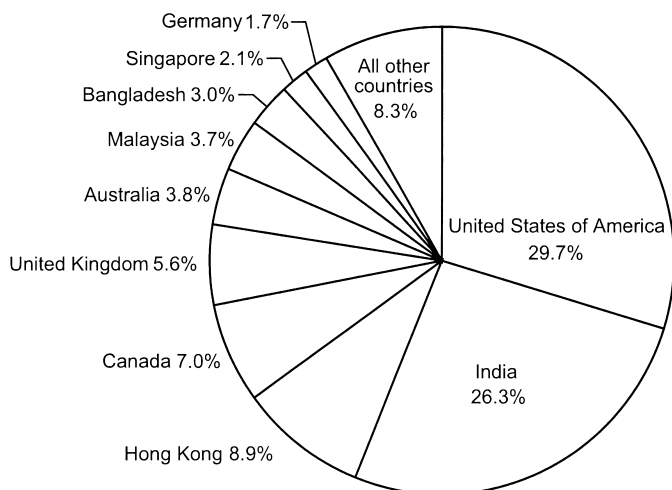


Fig. 6.1 Top ten Asian immigrant receiving countries

Sources: Data from the World Bank and the Development Research Centre on Migration, Globalisation and Poverty at Sussex University (see Parsons et al. 2005).

Bureau's Characteristics of Business Owners Survey indicates that Asian-owned businesses have mean annual sales that are roughly 60 percent higher than the mean sales of white firms in the United States (Fairlie and Robb 2009, 2008). Asian businesses are also 16.9 percent less likely to close, 20.6 percent more likely to have high profit levels, and 27.2 percent more likely to hire employees than white-owned businesses in the United States. Previous studies also indicate that Asian business owners have higher earnings than other groups (Borjas 1986; Boyd 1991). Finally, Asian immigrants' business are not located solely in low revenue industries and in fact, have been very influential in contributing to high-tech sectors (such as Silicon Valley), and technology and engineering industries (Saxenian 1999, 2000; Wadhwa et al. 2007).

Research from the United Kingdom documents the importance of business ownership among ethnic minorities, which Asians, particularly Indians, Pakistanis, and Bangladeshis, are among the largest groups (Clark and Drinkwater 1998, 2000, 2006). The literature in the United Kingdom has emphasized the role of discrimination in "pushing" minorities into self-employment (Metcalf, Modood, and Virdee 1996; Clark and Drinkwater 2000). Other studies have documented lower earnings among ethnic minority entrepreneurs (Clark, Drinkwater, and Leslie 1998) and the concentration in industrial sectors with high business failure rates such as retail, catering, and transportation (Parker 2004).

A small literature in Canada considers self-employment and business ownership of Asian immigrants. Ley (2006), Johnson (2000), Li (2001), and

Razin and Langlois (1996) examine the characteristics and relative success of Asian immigrants who choose to become entrepreneurs. Research on self-employment among all Canadian immigrants, and similar to the literature on immigrant self-employment in the United Kingdom, finds some evidence to suggest that Canadian immigrants are “pushed” into self-employment due to a lack of labor market opportunities in the wage and salary sector (Li 1997). Frenette (2004) finds that immigrants as a whole are somewhat more likely to be self-employed than native Canadians, but exhibit lower earnings than native self-employed Canadians.

In summary, the literature from the United States, Canada, and the United Kingdom provides some evidence on the rates of business ownership among Asians, but whether these rates are high, for ethnic Asians or Asian immigrants, for which Asian immigrants as defined by source country, and relative to which reference group (e.g., other minorities, other immigrants, native born) is not consistently documented for any of the countries. That is, the previous literature does not provide a comparative analysis of entrepreneurship rates among Asian immigrants across these three countries or offer explanations as to why the rates may or may not differ across the largest Asian immigrants receiving countries outside of Asia.¹ Moreover, it also only sparsely addresses the question of whether the businesses owned by Asian immigrants are relatively successful.

Using census microdata from the United States, United Kingdom, and Canada, this study provides the first analysis of entrepreneurship among Asian immigrants across the three largest receiving countries in the world. The sample sizes for all three censuses are extremely large and allow us to examine business ownership rates in all three countries and business income in the United States and Canada.² Large sample sizes are important because of the substantial heterogeneity across Asian immigrant groups and the need to compare Chinese, Indian, and other Asian immigrant groups in the United States to the same groups in the United Kingdom and Canada. The census data also provide very detailed information on education and other characteristics of the owner, allowing us to explore the determinants of business ownership and income. We first examine the characteristics of Asian immigration to the United States, United Kingdom, and Canada. Who immigrates to each of these countries? Of particular interest are the source countries and education levels of Asian immigrants, which may have important implications for business ownership and especially business performance patterns.

The second set of questions that we address is: do Asian immigrants have higher business ownership rates than the national average in the three receiv-

1. Schuetze and Antecol (2006) provide a detailed comparison of immigrant business formation in Australia, Canada, and the United States, but do not focus on Asian immigrants.

2. For the United Kingdom, we examine employment among business owners.

ing countries and in the United States and Canada? Do Asian immigrant business owners have higher business income than the national average? Is there substantial heterogeneity across country of origins and how do the same origin groups compare across countries that have different immigration policies, labor markets, and institutions? Previous research has not provided a comparative analysis across the three countries with the largest Asian immigrant waves using consistent definitions and detailed census microdata.

Finally we ask: do education and other demographic differences explain why some Asian immigrant groups have high rates of business ownership and why their businesses perform better than the national average?³ The focus is not only on explaining patterns within the three countries, but also across the three countries. For example, published estimates from the UK Census indicate that Chinese, Indians, and other Asian immigrant groups have business ownership rates that are much higher than the national average. These differentials are substantially larger than those found in the United States or Canada.⁴ Differential educational endowments among Asian immigrants and returns to education across countries may contribute to these relative patterns in business ownership and outcomes. Educational differences, in turn, may be caused by differences in immigration policies and by which Asians decide to immigrate to each country.

6.2 Data

For the analysis, we use the 2000 US Census of Population Public Use Microdata (PUMS) 5-Percent Samples (14.1 million observations), the 2001 United Kingdom Census 3-Percent Sample from the Individual Anonymised Records (1.6 million observations), and the 2001 Canada Census Public Use Microdata File (PUMF) of about 2.7 percent of the population (approximately 800,000 observations). The census samples from each country are representative of the entire population in the country, resulting in representative samples of all Asian immigrants residing in each country at the time of the surveys. Our analysis sample for the United Kingdom, however, includes only England and Wales. In all censuses, information on birth country, ethnicity, and immigration status is provided and used to define the Asian immigrant groups.⁵

3. Due to data limitations we cannot examine the importance of social capital, which has been found to be important for Asian immigrant businesses (see Kalnins and Chung [2006] and Zhou [2004], for example).

4. See Fairlie (2006) for a comparison of business ownership rates for a few Asian immigrant groups from published sources and US Census microdata.

5. The Canadian public use data restrict the detail on exact country of birth so ethnicity and immigration status is primarily used to categorize Asian immigrants. In the United Kingdom, India, Pakistan, and Bangladesh together are identified as birth countries and "Rest of Asia." Thus, ethnicity is also used to categorized specific Asian immigrant groups.

For all censuses, business ownership is identified from the class of worker (i.e., self-employed) question for the main job activity in the survey week. In the United States the question asks, "Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the most hours." Business owners are those individuals who report (a) "self-employed in own not incorporated business, professional practice, or farm," or (b) "self-employed in own incorporated business, professional practice, or farm." Thus, in the United States, ownership of a business includes unincorporated, incorporated, employer, and nonemployer businesses, although we cannot distinguish between the latter two. In Canada, the main job question offers more potential answers.⁶ We define business ownership as individuals reporting "self-employed incorporated workers without paid help," "self-employed incorporated workers with paid help," "self-employed unincorporated workers without paid help," or "self-employed unincorporated workers with paid help." In the United Kingdom, the main job question offers the following definitions for self-employment: "self-employed with employees—part time," "self-employed with employees—full time," "self-employed without employees—part time," and "self-employed without employees—full time."

For business outcomes in the United States and Canada censuses, business income is reported and thus we can measure the performance of Asian immigrant businesses. In the United Kingdom's census, business income is not publicly available. We distinguish between employer (has employees) and nonemployer businesses as an alternative measure of performance. The Canadian Census also allows for the identification of employer businesses.

For all countries, we restrict the samples to include individuals ages twenty-five to sixty-four. We exclude young workers to identify completed schooling and older workers because of the complication with retirement decisions.⁷ We also exclude individuals who are not currently working and who do not report working at least fifteen hours per week.⁸ Although side-businesses are already ruled out because of the focus on business ownership for the main job activity, these restrictions exclude all small-scale business activities. The additional exclusion of agricultural industries has little effect on estimates of Asian immigrant entrepreneurship, and thus we include these industries in all analyses.

6. The job reported was the one held in the survey week. Persons with two or more jobs in the reference week were asked to provide information for the job at which they worked the most hours.

7. Zissimopoulos, Maestas, and Karoly (2007) show self-employed workers in the United States and England retire at lower rates than wage and salary workers due to differential incentives from pension and health insurance systems.

8. For the UK and Canada Censuses, hours per week refer to the survey week, whereas the US Census only provides information on hours worked in the usual week worked over the previous year. Employment status, however, is determined for the survey week.

6.3 Asian Immigration

Large waves of Asians have migrated to the United States, United Kingdom, and Canada in the past few decades. Table 6.1 reports estimates of the total population size for Asian immigrants living in the United States, United Kingdom, and Canada. A striking 11.3 million Asians live in the three countries combined. The United States received by far the most Asian immigrants of the three countries. More than 7 million immigrants from Asia reside in the United States, representing 2.6 percent of the US population. Canada, however, has the largest concentration of Asian immigrants relative to its population size. Nearly 1.8 million Asian immigrants live in Canada, representing almost 6 percent of the total population. In the United Kingdom, there are 1.6 million Asian immigrants, comprising 3.1 percent of the total population.

Another interesting feature about Asian immigration in the United States, Canada, and United Kingdom is the heterogeneity in source countries. Asian

Table 6.1 Total population by country of origin, US Census 2000, Canada Census 2001, UK Census 2001

Immigrant group	United States		Canada		United Kingdom	
	Total population	<i>N</i>	Total population	<i>N</i>	Total population	<i>N</i>
All	281,421,910	14,081,466	30,007,094	801,055	53,679,267	1,610,378
Asian nationals	3,449,170	164,143			1,161,033	34,831
Other nationals	246,839,250	12,467,807			48,234,167	1,447,025
Non-Asian immigrants	23,875,980	1,117,151			2,633,467	79,004
Asian immigrants	7,257,510	332,365	1,765,180	47,758	1,650,600	49,518
Philippines	1,374,210	65,288	237,625	6,437		
China	1,198,660	54,622	581,162	15,724	160,867	4,826
India	1,027,140	45,759	320,267	8,664	409,900	12,297
Vietnam	991,990	45,991	147,923	4,003		
Korea	870,540	39,504	80,733	2,183		
Japan	346,450	15,973				
Taiwan	325,230	15,144				
Other Asian	290,480	13,049			146,267	4,388
Pakistan	229,210	10,051			297,967	8,939
Laos	205,930	9,019				
Thailand	168,850	7,775				
Cambodia	137,370	6,381				
Bangladesh	91,440	3,809			152,767	4,583

Notes: The sample consists of all individuals. US estimates are calculated using sample weights provided by the Census. United Kingdom includes England and Wales only. For United Kingdom, "Asian immigrants" group is defined by country of birth. Individual ethnic groups of Asian immigrants are defined by self-reported ethnicity and country of birth and do not include all persons born in Asia and residing in the United Kingdom. For example, Asian Immigrant, India, does not include ethnic British born in India.

immigrants in the United States have arrived from many different countries (table 6.1). The Philippines, China, and India have each sent more than one million migrants to the United States. Nearly one million immigrants have also arrived from both Vietnam and Korea. Eight additional countries have sent either close to 100,000 migrants or more than 100,000 migrants to the United States.

Asian immigration to Canada is also very diverse, with many of the same countries representing the largest shares. The main difference is the larger share of Chinese immigrants relative to the total for all Asian immigrants. Chinese immigrants represent nearly 33 percent of all Asian immigrants in Canada. In the United States, Chinese immigrants represent 17 percent of all immigrants from Asia. Asian immigration to the United Kingdom is much more concentrated across source countries. Almost all Asian immigrants come from Commonwealth countries, such as India, Pakistan, and Bangladesh, or former territories such as Hong Kong (coded as China).⁹ India and Pakistan are the largest groups, with roughly 400,000 and 300,000 immigrants, respectively.

Overall, large populations of Asian immigrants live in the United States, Canada, and the United Kingdom. For some specific Asian groups, such as the Chinese and Indians, large populations live in each of the three countries. For the remainder of the analysis, we focus on the seven Asian immigrant groups defined by birth country that can be identified in at least two of the three countries: Philippines, China, India, Vietnam, Korea, Pakistan, and Bangladesh.

6.3.1 Educational Patterns

One of the major factors distinguishing immigrants from different countries is their average levels of education. Immigrants from different countries vary substantially in the levels of education that they bring to the host country because of differences in educational institutions and selection. These differences in education levels have implications for business ownership and performance, which we examine in the next section. Education is found to be a determinant of business ownership in some countries and generally found to be a strong determinant of business earnings around the world (see Parker 2004; van der Sluis, van Praag, and Vijverberg 2004; and van Praag 2005).

Figures 6.2 through 6.5 display the educational distribution of Asian immigrants in the United States, Canada, and the United Kingdom. Focusing on the US results first, it is clear that Asian immigrants have much higher education levels than the national average (figure 6.2.). Asian immigrants are much more likely to have four-year college and graduate degrees (46.3 percent) than the national average (26.5 percent). Although Asian immigrants

9. The US Census is the only one that distinguishes between Hong Kong and China. For consistency, these two countries of birth are combined.

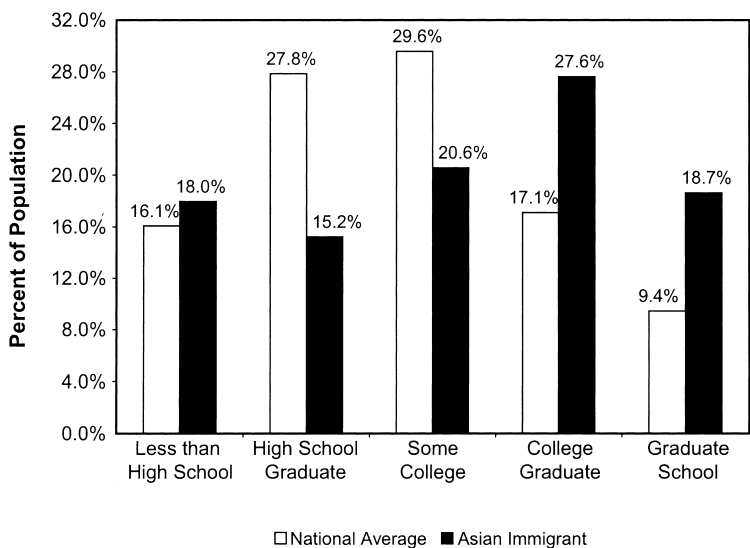


Fig. 6.2 Educational distribution of Asian immigrants, US Census 2000

are slightly more likely to have less than a high school education, they are more likely to only have a high school degree or some college than the national average. Unfortunately, the census data do not provide evidence on where the education was obtained.

The relative educational attainment of Canadian immigrants mirrors the pattern found in the United States. Asian immigrants are more educated than the national average. For the three lowest categories of educational attainment, Canadians overall are far more preponderant than Asian immigrants in Canada. Figure 6.3 demonstrates that a higher percentage of Canadians are more likely to have not graduated from high school, be a high-school graduate, or have some college education. But Asian immigrants are relatively more likely to have high levels of education; a higher percentage of Asian immigrants graduated from college or have a graduate degree than the national average. One difference between this comparison and the US comparison, however, is that the Asian educational advantage is not as large, an issue that we examine in more detail later.

In the United Kingdom, education is reported as highest qualification obtained and translated into one of five levels: level 1 (low education), held by 18.8 percent of the working age population; levels 2 and 3, held by 18.2 and 6.3 percent of the working age population, respectively; and levels 4 and 5 (high, generally college and above), held by 22.7 percent of the working age population. In addition, 26.3 report no qualifications and 7.6 percent report other qualifications. Figure 6.4 shows the distribution of education levels in the United Kingdom for Asian immigrants and the entire population.

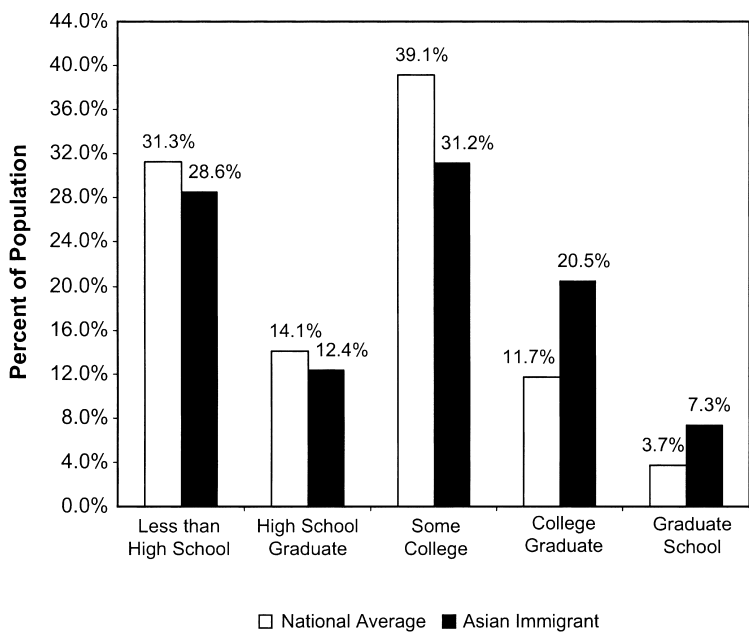


Fig. 6.3 Educational distribution of Asian immigrants, Canada Census 2001

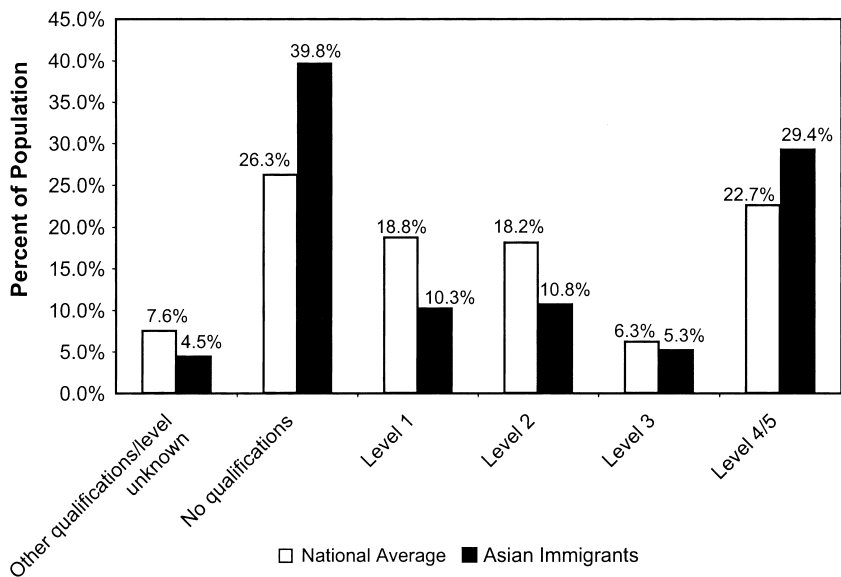


Fig. 6.4 Educational distribution of Asian immigrants, UK Census 2001

Slightly more than 29 percent of Asian immigrants have qualifications at level 4 and level 5, compared to 22.7 percent of the entire population. The percent of Asian immigrants with level 3 education is similar to the national average and a lower percent of Asian immigrants have levels 1 and 2 compared to the national average. A large difference exists between the percent reporting “no qualification” for Asian immigrants and the population as a whole (39.8 compared to 26.3, respectively). Part of this difference likely reflects education of Asian immigrants received abroad that does not easily translate into the UK system. For the analysis, we assume Asian immigrants reporting “no qualifications” are of a level less than level 4. Although it is difficult to make comparisons, it appears as though the educational advantage of Asian immigrants in the United Kingdom is relatively small compared to the advantage in the United States.

Educational distributions are not perfectly comparable across the three countries because of differences in educational systems. To make comparisons across countries we focus on the percent of the prime-age workforce that has a college degree, which represents levels 4 and 5 in the United Kingdom. Table 6.2 reports the distribution of source countries and percent with college educations for the United States, United Kingdom, and Canada.

All Asian immigrant groups in the United States except the Vietnamese have very high levels of education relative to the national average, particularly Indians, whose rate of college education or more is 76 percent. This is 45 percentage points above the national average of 31 percent. Vietnamese immigrants are largely refugees, which is an explanation for their lower edu-

Table 6.2 **Percent of workforce with a college education by country of origin, US Census 2000, Canada Census 2001, UK Census 2001**

	United States (%)	<i>N</i>	Canada (%)	<i>N</i>	United Kingdom (%)	<i>N</i>
National average	31.0	5,070,919	25.1	303,165	28.4	502,532
Native Asians	51.1	31,995			49.8	4,099
Asian immigrants	51.4	154,448	40.7	21,182	40.1	3,002
Philippines	52.3	33,058	47.4	3,557		
China	53.1	25,427	42.9	6,368	46.3	1,391
India	76.2	23,868	42.1	4,303	42.2	4,429
Vietnam	24.8	21,711	18.5	2,102		
Korea	47.7	16,343	55.0	734		
Pakistan	59.0	4,196			30.4	1,876
Bangladesh	56.4	1,570			28.1	903

Notes: The sample consists of the workforce ages twenty-five to sixty-four. UK sample does not include workers with other qualifications or level unknown. United Kingdom includes England and Wales only. For United Kingdom, “Asian immigrants” group is defined by country of birth and self-reported ethnicity and does not include all persons born in Asia and residing in the United Kingdom. For example, it does not include ethnic British born in India.

cation levels. Likewise in Canada, every Asian immigrant group has a higher college share than the national average with the exception of the Vietnamese. A notable difference, however, between these results and the US results is that for almost every source country Asian immigrants in Canada are less likely to have at least a college degree than Asian immigrants in the United States. The differences are large in some cases. For example, 42.1 percent of Indians living in Canada have a college degree compared to 76.2 percent of Indians living in the United States.

Similarly, we find that overall the education levels of Asian immigrants in the United Kingdom are higher than the national average. As a group, about 40 percent of Asian immigrants have a college education or higher, compared to a national average of 28.4 percent. For every Asian group, however, this rate is lower than in the United States and comparable to those in Canada. For example, 42.2 percent of Indian immigrants have a college education in the United Kingdom, almost the identical percentage as in Canada. For immigrants from Pakistan and Bangladesh, nearly 60 percent have college degrees in the United States, whereas roughly 30 percent have college degrees in the United Kingdom.

Overall, Asian immigrants in the United States have very high levels of education. Asian immigrants in Canada and the United Kingdom have much lower levels of education although they are still substantially higher than the national averages for the two countries. Higher education levels in the United States among Asian immigrants from the same countries may be due to differences in immigration policies and who selects to come to each country.

6.3.2 Immigration Policies

Educational and source country differences across countries are due to differences in immigration policies, labor markets, credit markets, tax systems, historical ties, geographical proximity, and other institutional and structural differences. Immigration policy is clearly one of the most important factors, if not the most important factor, affecting the distribution of source countries and who emigrates from each source country. For example, policies that emphasize admissions based on employment skills instead of refugee or family reunification are likely to result in immigration from more highly educated source countries or more highly educated immigrants within source countries. In fact, the focus of US immigration policy on family reunification has been criticized for lowering the skills and education levels of successive waves of immigrants (Borjas 1995, 1999). On the other hand, Canada's point-based system, which awards immigration admission points based on education, language ability (English or French), years of experience (in a managerial, professional, or technical occupation), age, arranged employment in Canada, and other factors leads to more skilled immigrants

compared to the United States (Borjas 1993).¹⁰ The investor and entrepreneur admission programs in Canada may also alter the skill level of immigrants.

Although a detailed discussion of differences in immigration policies in the United States, Canada, and the United Kingdom is beyond the scope of this chapter, a brief examination of types of immigrant admissions around the time of the censuses sheds light on the key differences.¹¹ Since the 1960s, US immigration policy has strongly favored family reunification (Woroby 2005). In Canada, the focus has been on accepting immigrants who possessed the economic skills the country requires and encourage immigration of individuals with high education levels (Woroby 2005). The United Kingdom's immigration policies were at one time restricted to citizens of the states in the Commonwealth. However, over the past four decades the policies in the United Kingdom have shifted toward emphasizing family reunification and employment (Bauer, Lofstrom, and Zimmermann 2000). Figure 6.5 reports immigration admissions by type for the United States, Canada, and the United Kingdom. In both the United States and United Kingdom immigrants are most likely to enter the country as "family sponsored." Family reunification appears to be the main route by which immigrants enter each of the two countries.

The main difference across countries is in the percentages of immigrants being admitted for employment-based preferences. Because of the point-based system in Canada, roughly half of all immigrants are admitted through employment-based preferences. In contrast, about 11 percent of immigrants in the United States and United Kingdom are admitted under this broad classification. The percentage of admissions under this policy is even lower in the United Kingdom, with less than 5 percent of all immigrants being admitted. The point-based system in Canada clearly results in a higher share of immigrants being admitted for employment-based preferences than in either the United States or United Kingdom.

The related category of employment creation or investors also differs across countries.¹² In Canada these immigrants are categorized as "investors," "entrepreneurs," or "self-employed." There are minimum net worth and business experience requirements for investors and entrepreneurs, and

10. Antecol, Cobb-Clark, and Trejo (2003) find that Canadian immigrants have higher skills than US immigrants, but the disparity disappears after removing Latin American immigrants, which is roughly similar to the finding in Borjas (1993). They argue, however, that policy differences are less important than geographical and historical differences.

11. See Bauer, Lofstrom, and Zimmermann (2000); Antecol, Cobb-Clark, and Trejo (2003); Woroby (2005); and Schuetze and Antecol (2006) for more information on immigration policies.

12. See Citizenship and Immigration Canada (2007) for more information on the Canadian selection criteria, US Citizenship and Immigration Services (2007) for requirements for employment creation immigrants, and UK Border and Immigration Agency (2007) for UK investment immigration information.

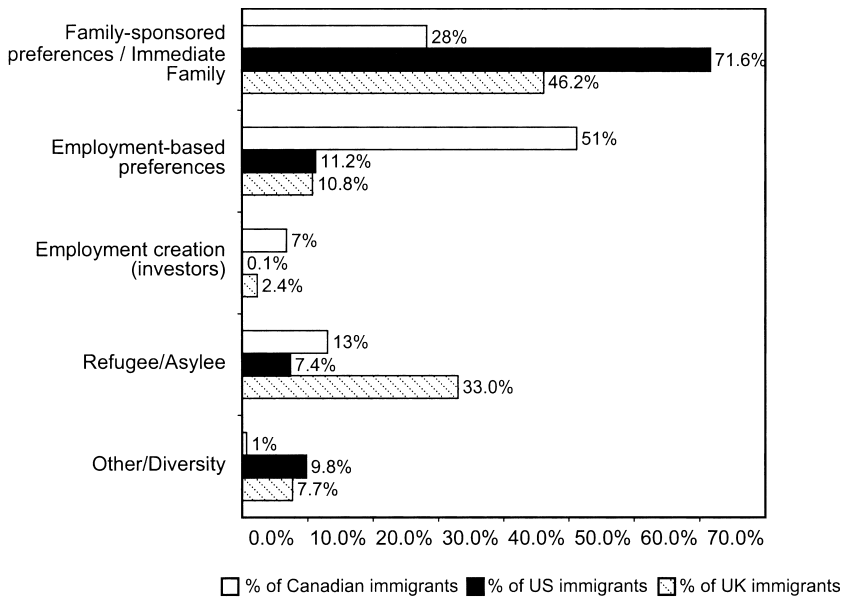


Fig. 6.5 Immigration by type of admission for 1998–2000

Sources: Dudley and Harvey (2001), US Department of Homeland Security (2007); Citizenship and Immigration Canada (2007).

self-employed immigrants must have relevant experience in cultural, athletic, or farm management occupations.¹³ In the United States, immigrants admitted in the “employment creation” must be actively investing at least \$1 million US dollars in a commercial enterprise with at least ten employees. “Business” immigrants to the United Kingdom must invest a minimum of £\$200,000, and “innovator” immigrants must employ at least two UK residents. The estimates reported in figure 6.3 indicate that a much larger share of immigrants in Canada are admitted under these policies than in the United States and United Kingdom. Overall they represent a relatively small share of all immigrants compared to the other categories. In Canada, they represent 7 percent of all admitted immigrants compared to 0.1 and 2.4 percent in the United States and United Kingdom, respectively. Differences in these policies may alter the percent of successful immigrant business owners in Canada relative to both the United States and United Kingdom.

Another major difference in immigration policies is in the percentage of immigrants being admitted under refugee/asylee status. In the United Kingdom, 33 percent of immigrants are admitted under this category. The large portion of refugee/asylum immigrants in the United Kingdom is similar to

13. For investors and entrepreneurs the minimum net worth requirements are \$800,000 and \$300,000, respectively, and at least two years worth of business experience.

that in other European nations and has been attributed to the political events in the former socialist states in Eastern Europe, and the wars in the former Yugoslavia and in Turkey (Bauer, Lofstrom, and Zimmermann 2000). The percentage admitted as refugees or asylees in Canada is 13 percent, whereas in the United States the percentage is 7.4 percent.

Canada's point-based immigration system results in a higher share of employment-based immigrants compared to the United States and United Kingdom. On the other hand, the United Kingdom admits a much higher share of immigrants under its refugee and asylee programs than the United States or Canada. All else equal, we would expect skill levels of immigrants to be the highest in Canada and the lowest in the United Kingdom. As indicated previously, we find some evidence that the educational advantage of Asian immigrants compared to the national average is lower in the United Kingdom than in the United States, which is consistent with these differences in immigration policies. But we also found that the educational advantage in the United States is higher than it is in Canada, which runs counter to the greater emphasis of Canada's immigration policy on rewarding points for the general skill level of immigrants. A more generous redistribution system, more egalitarian earnings, and other institutional and structural factors, however, may make Canada less attractive to higher skilled immigrants (Antecol, Cobb-Clark, and Trejo 2003).

6.4 Business Ownership and Business Income of Asian Immigrants

6.4.1 Business Ownership

The rate of business ownership among Asian immigrant workers as a whole and for specific Asian groups varies substantially within and across countries. Table 6.3 reports estimates of business ownership for the United States, Canada, and the United Kingdom. In the United States, 10.9 percent of Asian immigrant workers are business owners, which is just 0.8 percentage points above the national average. In Canada, the rate of business ownership among Asian immigrants is higher than in the United States (12.5 percent), but is 0.7 percentage points lower than the national average. In contrast, in the United Kingdom 22.9 percent of Asian immigrant workers are business owners, which is substantially higher than in the United States and Canada and 8.5 percentage points higher than the national average. In sum, Asian immigrant business ownership rates are lowest in the United States and highest in the United Kingdom. They are similar to the national average in Canada and the United States and strikingly higher than the national average in the United Kingdom.

In the United States, the comparison between Asian immigrants and the national average masks considerable heterogeneity in business ownership

Table 6.3 Business ownership rates by country of origin, US Census 2000, Canada Census 2001, UK Census 2001

Immigrant group	United States		Canada		United Kingdom	
	Business ownership rate (%)	N	Business ownership rate (%)	N	Business ownership rate (%)	N
National average	10.1	5,070,919	13.2	303,165	14.4	586,971
Native-born Asians	7.6	31,995			13.8	4,757
Asian immigrants	10.9	154,448	12.5	21,182	22.9	13,098
Philippines	4.9	33,058	4.8	3,557		
China	9.6	25,427	14.9	6,368	29.5	1,974
India	10.7	23,868	12.5	4,303	20.1	5,540
Vietnam	10.5	21,711	9.0	2,102		
Korea	24.1	16,343	41.3	734		
Pakistan	14.8	4,196			28.7	2,631
Bangladesh	8.7	1,570			20.6	1,137

Notes: The sample consists of the workforce ages twenty-five to sixty-four. United Kingdom includes England and Wales only. For United Kingdom, "Asian immigrants" group is defined by country of birth and self-reported ethnicity and does not include all persons born in Asia and residing in the United Kingdom. For example, it does not include ethnic British born in India. For Canada, South Asian includes Bangladeshi, Bengali, East Indian, Goan, Gujarati Pakastani, Punjabi, Sinhalese, Sri Lankan, Tamil.

rates across Asian groups. For example, immigrants from the Philippines have very low business ownership rates. The Philippino business ownership rate is only 4.9 percent, which is less than half of the national average. On the other hand, immigrants from Korea and Pakistan have very high rates of business ownership (24.1 and 14.8 percent, respectively). Similar patterns are revealed in Canada, with Philippino immigrants having relatively low rates (4.8 percent) and Koreans having very high rates (41.3 percent), although the Korean rate is much higher in Canada than in the United States. The finding of high rates of business ownership is more consistent in the United Kingdom. For all reported groups, business ownership rates are considerably higher than the national average. For the two highest-rate groups, immigrants from China and Pakistan, nearly 30 percent of the working population owns a business, which is more than twice the rate of these groups in the United States and Canada. Comparing across countries, we generally find that groups with relatively high rates in one country have relatively high rates in the other countries, although as discussed, the rates vary substantially by country.

6.4.2 Business Income

Table 6.4 reports average net business income of self-employed business owners in the United States and Canada by immigrant group and

Table 6.4 Business outcomes by country of origin, US Census 2000, Canada Census 2001, UK Census 2001

Immigrant group	United States		Canada			United Kingdom	
	Net business income (\$)	N	Net business income (\$)	Percent employer firms (%)	N	Percent employer firms	N
National average	52,086	534,194	30,296	42.4	39,933	37.1	84,439
Native-born Asians	62,080	2,483				50.8	658
Asian immigrants	54,208	17,093	24,301	51.4	2,652	54.5	3,002
Philippines	59,990	1,634	22,432	42.9	170		
China	45,815	2,481	24,030	54.4	952	66.4	583
India	84,080	2,684	28,580	48.4	539	53.6	1,111
Vietnam	34,862	2,253	21,170	50.3	189		
Korea	48,074	4,015	22,463	53.8	303		
Pakistan	61,701	621				44.8	755
Bangladesh	36,954	147				64.5	234

Notes: The sample consists of all business owners ages twenty-five to sixty-four. United Kingdom includes England and Wales only. For United Kingdom, “Asian immigrants” group is defined by country of birth and self-reported ethnicity and does not include all persons born in Asia and residing in the United Kingdom. For example, it does not include ethnic British born in India.

for the population as a whole.¹⁴ Asian immigrant businesses earn more on average than the national average for businesses in the United States, but the difference is not large.¹⁵ The total, however, masks important differences across groups. For example, businesses owned by Indian immigrants have average income levels that are 60 percent higher than the national average. Pakistanis and Philipinos also have substantially higher average incomes. On the other end, businesses owned by immigrants from Vietnam and Bangladesh have much lower business income than the national average.

The results for business income in the United States contrast with the performance of businesses owned by Asian immigrants in Canada.¹⁶ On average, Asian immigrants’ business income is lower than the national

14. The self-employed earn 35 percent more on average than wage/salary workers in the United States. Among Asian immigrants, the self-employed earn 33 percent higher than wage/salary workers on average. Although every reported Asian immigrant group earns more on average in business ownership than in wage and salary work, there is some heterogeneity across groups—ranging from 11 percent more income for Vietnamese to 64 percent more income for Philipinos.

15. Fairlie and Robb (2009, 2008) find larger differences in business outcomes (survival, profits, employment, and sales) between all Asian (both immigrant and US-born) firms and white firms.

16. In Canada, the self-employed earn 18 percent less on average than wage/salary workers. Asian immigrants earn 20 percent less on average in self-employment than in wage/salary work.

average for business income (\$24,300 compared to \$30,300, respectively).¹⁷ The difference is large for all Asian immigrant groups with the exception of Indians, who earn slightly less than the national average.

The UK Census does not provide data on business income, but includes information on which businesses have employees (employer firms). Employment represents a rough proxy for business success. Using alternative sources of data for the United States, previous research indicates that businesses with employees on average have higher business income than those businesses without employees (Zissimopoulos and Karoly 2007; Fairlie and Robb 2008). In the United Kingdom over one-half of Asian immigrant-owned businesses are employer firms (54.5 percent), compared with 37.1 percent overall. Higher employment rates hold for all Asian groups. The Chinese are the most likely to have employer businesses (66.4 percent) and immigrants from Pakistan, the least (44.8 percent) likely among all Asian immigrant business owners. Asian immigrants are also more likely to have employees in Canada than the national average. Businesses with employees may be more successful businesses than those without employees, but it may instead be related to the type of business the worker chooses to start.

In sum, we find that Asian immigrants in the United States are only slightly more likely to be business owners and have only slightly higher income than the national average and we find substantial heterogeneity across groups. This is not the broad picture of success that is often portrayed. In Canada, business income is lower for all Asian immigrants than the national average. In the United Kingdom business ownership among Asian immigrants is much higher than the national average and all Asian immigrants' businesses are more likely to be employer firms than the national average.

6.5 The Role of Education in Explaining Relative Asian Immigrant Business Performance

We now turn to analyzing factors that explain rates of business ownership and performance among Asian immigrants across countries and within countries. We focus on the role that education plays in determining who owns a business and the level of success of the business, given the large educational differences between Asian immigrants and the population as a whole and the empirical regularity of its importance in business ownership and business performance. We estimate separate regression models for the probability of business ownership and log business income (or employment) for each country (tables 6.5 through 6.7). The models are the same for all countries. Coefficients on the indicator variables for the seven Asian immi-

17. At the beginning of 2000, the exchange rate was 1.45 Canadian dollars per US dollar (International Monetary Fund 2007).

grant groups we study are reported. In each table, specifications (1) and (2) report estimates for the probability of owning a business. For the models based on data from the United States and Canada, specifications (3) and (4) report estimates for log net business income. For the United Kingdom, specifications (3) and (4) report estimates for the probability the business is an employer firm. The first set of specifications for each outcome does not include any demographic controls. The coefficients on the immigrant group indicator variables capture the difference between that group's business ownership rate, or log business income (employer firm rate for the United Kingdom) and the native-born white levels (the excluded group). Native-born whites are used as the reference group to approximate the national average for each country. The second set of specification for each outcome adds education, demographic, and other controls (female, age, marital status, region, and broad industrial sector).¹⁸

6.5.1 US Results

Table 6.5 reports results for the United States. The first specification shows that Korean and Pakistani immigrants have higher business ownership rates relative to native whites while all other Asian immigrants groups have lower rates. These results hold when education and other controls are added, with the exception that once we control for education, Vietnamese immigrants are slightly more likely to be business owners than native whites. Estimates from the second specification show that having a college degree increases the likelihood of owning a business by 1.9 percentage points, which represents 18 percent of the mean business ownership rate. It has a much larger effect on business performance. Having a college degree increases business income by roughly 60 percent. In the United States, the education level of the entrepreneur determines who owns a business, but more importantly, determines which businesses will be successful. The coefficients on the other controls indicate that business ownership is higher among men, married individuals, older workers, and those in agriculture and construction. Business income is higher among male owners, married owners, middle-aged owners, and nonagricultural businesses.

Although there is substantial variation in education levels across groups as displayed in table 6.2, controlling for education has little effect on the Asian immigrant coefficients for business ownership. The estimated business ownership rate differences remain fairly similar with the exception for the Vietnamese, as noted earlier. On the other hand, education matters for business income. Controlling for education and other demographic characteristics we find large changes in the Asian immigrant coefficients in the

18. We cannot control for year in the country in the UK data, and thus do not control for cohort effects (Borjas 1986; Schuetze and Antecol 2006) and do not examine assimilation patterns for Asian immigrants (Lofstrom 2002).

Table 6.5 Business ownership and net business income regressions, US Census 2000

Explanatory variables	Business ownership		(Log) business income	
	(1)	(2)	(3)	(4)
Philippino immigrant	-0.0604 (0.0016)	-0.0600 (0.0016)	0.0155 (0.0332)	-0.0815 (0.0311)
Chinese immigrant	-0.0139 (0.0018)	-0.0105 (0.0018)	-0.0851 (0.0270)	-0.2022 (0.0253)
Indian immigrant	-0.0036 (0.0018)	0.0002 (0.0018)	0.4843 (0.0262)	0.1314 (0.0246)
Vietnamese immigrant	-0.0064 (0.0020)	0.0045 (0.0019)	-0.2873 (0.0283)	-0.1337 (0.0266)
Korean immigrant	0.1265 (0.0022)	0.1306 (0.0022)	0.0514 (0.0213)	-0.0479 (0.0201)
Pakistani immigrant	0.0368 (0.0043)	0.0379 (0.0042)	0.1441 (0.0527)	-0.1947 (0.0494)
Bangladeshi immigrant	-0.0222 (0.0069)	-0.0156 (0.0068)	-0.3329 (0.1095)	-0.6766 (0.1026)
College graduate		0.0185 (0.0003)		0.6223 (0.0041)
Female		-0.0322 (0.0003)		-0.7520 (0.0041)
Ages 25–29		-0.0385 (0.0004)		-0.2540 (0.0079)
Ages 45–59		0.0317 (0.0003)		0.0023 (0.0040)
Ages 60–64		0.0694 (0.0007)		-0.1867 (0.0074)
Married		0.0207 (0.0003)		0.1633 (0.0043)
Agriculture		0.3427 (0.0012)		-0.6274 (0.0083)
Construction		0.1586 (0.0005)		-0.0545 (0.0052)
Mean dependent variable	0.1007	0.1007	10.14	10.14
Sample size	5,069,610	5,069,610	534,044	534,044

Notes: The sample consists of individuals (ages twenty-five to sixty-four) who work fifteen or more hours per week. Additional controls include other Asian immigrant, Asian native, white immigrant, black native, black immigrant, Latino native, Latino immigrant, Native American, other race, multiple race dummies, and region controls. The omitted categories are white natives and ages thirty to forty-four.

log business specifications, suggesting that educational differences explain a lot of the variation in business incomes. For example, Indian immigrant businesses are found to have 48 log points higher business income than white natives, but after controlling for their extremely high education levels and other demographic characteristics (76.2 percent have a college degree) reduces this advantage to 13 log points.

A simple decomposition reveals that most of the drop in rates is due to education differences. To see this, we calculate $(\bar{E}^W - \bar{E}^A)\hat{\beta}^*$, where E is the average education level of native-born whites (W) or Asian group (A), and $\hat{\beta}^*$ is the coefficient estimate on education from the pooled sample used in the regressions reported in table 6.5.¹⁹ This formula approximates the contribution of educational differences between whites and Indian immigrants to the log business income differential, controlling for other demographic characteristics. For Indian immigrants, the contribution is 0.21, which is a large share of the 0.35 drop in log business income.

The higher average business income among Pakistani-owned businesses disappears after controlling for education and other characteristics, suggesting that high levels of education are largely responsible for why businesses owned by this group are successful in the United States. Controlling for education can also work in the opposite direction. Vietnamese immigrants are found to have lower education levels than the national average (24.8 percent have college degrees). Controlling for relatively low education levels among Vietnamese immigrants partly explains why their businesses are less successful on average. Vietnamese businesses earn roughly 30 percent less than white native businesses, but earn roughly 10 percent less after controlling for education and other characteristics. The contribution from educational differences is -0.10 log points.

For most Asian immigrant groups, the coefficients become negative or larger negative values after controlling for education and other factors. This finding indicates that Asian immigrant business owners earn less than white business owners, conditioning on their higher levels of education. If these groups did not have higher levels of education than the national average, their businesses would not be as successful.

Overall, education differences are important in explaining why some Asian immigrant groups own successful businesses and others do not. Education differences appear to be much less important in explaining the variation in business ownership. The difference in findings results from the large positive effect of owner's education on business income, but smaller positive effect on determining who owns a business in the United States.

6.5.2 Canadian Results

Estimates for Canada are reported in table 6.6. Asian immigrants in Canada do not exhibit uniformly higher rates of business ownership than native-born whites in Canada. Philippino, Indian, and Vietnamese immigrants are less likely to own businesses than native whites, but Chinese and Korean immigrants are more likely to own businesses. These results are generally unaffected by the inclusion of education and other demographic

19. This is essentially the endowment contribution from a standard Blinder-Oaxaca decomposition (Blinder 1973 and Oaxaca 1973).

Table 6.6 Business ownership and net business income regressions, Canada
Census 2001

Explanatory variables	Business ownership		(Log) business income	
	(1)	(2)	(3)	(4)
Philippino immigrant	-0.0844 (0.0036)	-0.0688 (0.0037)	-0.1982 (0.0403)	-0.2905 (0.0880)
Chinese immigrant	0.0172 (0.0045)	0.0203 (0.0045)	-0.1982 (0.0404)	-0.3439 (0.0397)
Indian immigrant	-0.0069 (0.0051)	-0.0137 (0.0052)	0.0583 (0.0526)	-0.1855 (0.0518)
Vietnamese immigrant	-0.0422 (0.0063)	-0.0248 (0.0063)	-0.0809 (0.0721)	-0.0787 (0.0705)
Korean immigrant	0.2804 (0.0182)	0.2826 (0.0180)	-0.2315 (0.0638)	-0.3806 (0.0663)
College graduate		0.0282 (0.0014)		0.5081 (0.0139)
Female		-0.0475 (0.0012)		-0.5185 (0.0130)
Ages 25–29		-0.0532 (0.0015)		-0.2057 (0.0265)
Ages 45–59		0.0293 (0.0014)		0.0056 (0.0123)
Ages 60–64		0.0873 (0.0039)		-0.1574 (0.0271)
Married		0.0218 (0.0013)		0.1234 (0.0135)
Agriculture		0.4451 (0.0056)		-0.4192 (0.0206)
Construction		0.1693 (0.0035)		-0.0062 (0.0165)
Mean dependent variable	0.1317	0.1317	9.999	9.999
Sample size	303,127	303,127	33,676	33,676

Notes: The sample consists of individuals (ages twenty-five to sixty-four) who work fifteen or more hours per week. Additional controls include other Asian immigrant, Asian native, white immigrant, black native, black immigrant, Latino native, Latino immigrant, Native American, other race, multiple race dummies, and region controls. The left-out categories are white natives and ages thirty to forty-four.

characteristics. Interestingly, education has a larger effect on business ownership than it does in the United States. The coefficient estimate reported in specification (2) implies that business ownership increases by 2.8 percentage points for workers with a college degree. But, the effect of education on business ownership is still small enough that controlling for the higher education levels of Asian immigrants in Canada does not substantially alter the relative business ownership rates.

The last two columns of the table demonstrate that, unlike the United States, Asian immigrants in Canada exhibit almost uniformly lower levels

of business income relative to natives. Without any control variables, Filipino, Chinese, and Korean immigrants exhibit significantly lower earnings than whites, while Indian and Vietnamese immigrants have business incomes not significantly different than natives. Another difference found from the results in table 6.6 to the results from the United States is that the inclusion of control variables accounts for very little of these differences in business income. The only change of note from the third column to the fourth is that the negative difference in earnings exhibited by Indian immigrant business owners compared to whites is now larger. Higher levels of education increase their business income levels, and thus controlling for these differences results in larger negative relative income levels.

Another interesting finding from these results is that the return to education is lower in Canada than in the United States. The coefficients imply that business income is roughly 50 percent higher among college-educated owners.

6.5.3 UK Results

We next discuss results for the United Kingdom, which are reported in table 6.7. The results from the business ownership models show that all Asian immigrant groups have higher business ownership rates relative to native whites, and the coefficient estimates on Asian immigrant groups increase slightly when education and other demographic characteristics are added. The lack of change in the Asian immigrant coefficients for business ownership is consistent with the finding that having a college degree has no effect on the likelihood of owning a business. The coefficient estimate is essentially zero, which differs from the positive coefficients found for the United States and Canada. Similar to the two other countries, however, business ownership is higher among men, married individuals, older workers, and those in agriculture and construction.

Unfortunately, we do not have a measure of business income in the United Kingdom and instead use a rough proxy for business performance, whether the firm hires employees. Employer firms are more likely among male owners, married owners, middle-aged owners, and nonagricultural, nonconstruction businesses, which is generally consistent with the results for log business income for the United States and Canada. Most importantly, we find a positive and statistically significant effect of education on employment. The coefficient estimate indicates that college-graduate-level owners have a 1.8 percentage point higher likelihood of hiring employees than do owners with lower levels of education. The positive effect of education on employment is consistent with the estimated effects of education on log business income in the United States and Canada, but the relative magnitude of the effect is much smaller. The estimated effect on British employment represents roughly 5 percent of the mean employment rate, compared to roughly 60 percent of business income in the United States and 50 percent of business income in Canada.

Table 6.7 Business ownership and employer firm regressions, UK Census 2001

Explanatory variables	Business ownership		Employer firm	
	(1)	(2)	(3)	(4)
Chinese immigrant	0.146 (0.008)	0.173 (0.007)	0.299 (0.020)	0.260 (0.020)
Indian immigrant	0.062 (0.004)	0.076 (0.004)	0.170 (0.011)	0.125 (0.011)
Pakistani immigrant	0.146 (0.006)	0.153 (0.006)	0.097 (0.017)	0.050 (0.017)
Bangladeshi immigrant	0.064 (0.010)	0.082 (0.010)	0.281 (0.031)	0.233 (0.031)
College graduate		0.001 (0.001)		0.018 (0.004)
Female		-0.074 (0.001)		-0.021 (0.004)
Ages 25–29		-0.054 (0.001)		-0.037 (0.007)
Ages 45–59		0.040 (0.001)		-0.011 (0.004)
Ages 60–64		0.085 (0.002)		-0.052 (0.007)
Married		0.011 (0.001)		0.080 (0.004)
Agriculture		0.413 (0.004)		-0.073 (0.007)
Construction		0.260 (0.002)		-0.111 (0.004)
Mean dependent variable	0.144	0.144	0.371	0.371
Sample size	586,971	586,971	84,439	84,439

Notes: The sample consists of individuals (ages twenty-five to sixty-four) who work fifteen or more hours per week. Additional controls include other Asian immigrant, Asian native, white immigrant, black native, black immigrant, Latino native, Latino immigrant, Native American, other race, and multiple race dummies. The left-out categories are white natives and ages thirty to forty-four.

The inclusion of education and other covariates decreases the coefficient estimates of the various Asian immigrant groups in the model of the likelihood of having employees. The largest effect is on the Pakistani immigrant indicator. The addition of education and other covariates reduces the magnitude of the Pakistani immigrant coefficient from 9.7 percentage points to 5.0 percentage points.

In sum, all Asian immigrant groups are substantially more likely to be business owners and be employer firms than native whites, but there is substantial heterogeneity among Asian immigrant groups. At the high end are Chinese immigrants, who are 17 percentage points more likely to be business owners and among business owners, 26 percentage points more likely to have employees relative to native whites. At the low end are Indian immigrants,

who are 7.6 percentage points more likely to be business owners. Among business owners, Pakistanis are only 5 percentage points more likely to have employees relative to native whites.

Comparing estimates from the three countries reveals two interesting patterns. First, the effects of education on business ownership and performance differ across countries. Education has a positive effect on business ownership in the United States and Canada, but has essentially no effect on business ownership in the United Kingdom. This finding potentially has important implications for the effects of relatively high levels of education among Asian immigrants in the three countries—we find, however, that it does not. The positive effects, although statistically significant, are just not large enough in the United States and Canada to contribute substantially to why some Asian immigrant groups have higher business ownership rates than the national average.

Second, the effects of education on business income are large in the United States and Canada. In the United States, for example, college-educated business owners have more than 60 percent higher earnings than noncollege educated owners. The effect of education on employment is positive in the United Kingdom, but smaller than the effects on income in the United States and Canada. In the United States, the combination of large returns to education and highly educated Asian immigrants contributes to why Asian immigrants (such as Indians and Pakistanis) have relatively high business incomes. For many other Asian immigrant groups, however, controlling for education lowers their earnings well below the native-born white level. The return to education is slightly lower in Canada compared to the United States, and controlling for education lowers immigrants' earnings even further below the native-born white level.

6.5.4 Additional Estimates

We estimate several additional specifications to check the sensitivity of the estimates (results not shown). In the main results, we include all of the explanatory variables that are available and consistently defined across all three countries. Here, we try additional specifications for each country based on available measures. For the United States, we were first concerned that education might proxy wealth instead of skill or aptitude. Previous research indicates that limited access to financial resources may impede the propensity to start a business or grow a business (Holtz-Eakin, Joulfaian, and Rosen 1994; Bruce, Holtz-Eakin, and Quinn 2000; Fairlie and Krashinsky 2006), although more recent evidence contradicts the liquidity constraint hypothesis (Hurst and Lusardi 2004). Measures of total wealth are unavailable in the US Census; however, home ownership is available and the inclusion of this variable in the models does not alter either the estimated effect of immigrant groups or education on business ownership or business outcome.

We also estimate specifications that include more detailed education

levels for the United States. We find that business ownership and income are increasing functions for each higher education level. The coefficients on the Asian immigrant dummies, however, are not sensitive to the switch from the inclusion of the college dummy variable to more detailed dummy variables. The US Census also allows us to control for English language ability and number of children. Most estimates are not overly sensitive to the inclusion of these variables. The main change is that the Chinese, Vietnamese, and Korean coefficients become more positive in the business income equation. Interestingly, the college coefficient does not noticeably change with the inclusion of English language ability.

For Canada, we also estimate several additional specifications. First, we checked the sensitivity of the education and Asian immigrant dummies to the inclusion of home ownership. The coefficients are not sensitive to the inclusion of this asset measure. Second, we included more detailed education codes available in the Canadian Census. This also does not have a large effect on the Asian group coefficients. Finally, we included the number of children as an additional control and did not find changes in the group coefficients. Similar to the US results, the Canadian results are robust to alternative specifications.

Similarly, for the United Kingdom we assessed the sensitivity of the education and Asian immigrant dummies to the inclusion of a home ownership indicator in business ownership and employer firm models and found the estimates were insensitive to this inclusion. Second, we included an indicator for each level of qualifications including no qualifications (with levels 4 and 5 as the excluded group). We find that there is no difference in the effect of level 2 qualifications or level 3 qualifications, relative to level 4 or 5, on business ownership and employer firm. Having no qualifications reduces business ownership and being an employer firm by 1.3 percentage points and 2.6 percentage points, respectively, and having level 1 qualifications reduces business ownership and being an employer firm by 2.6 percentage points and 2.7 percentage points, respectively. These estimates are statistically different than zero but small. The inclusion of more detailed education indicators has no effect on the immigrant indicators. Finally, we included number of usual household residents in both models and found that it had no effect on the estimated immigrant indicators with the exception of increasing the likelihood of a Pakistani immigrant being an employer firm by 50 percent. The UK results are thus not overly sensitive to alternative specifications.

6.6 Conclusions

The United States, Canada, and the United Kingdom have received the most immigrants from Asia among all non-Asian countries in the world. These three countries combined have received more than 11 million immigrants from Asia. Some specific Asian groups, the Chinese and Indians,

have large populations in all three countries. Using census microdata from each country, we provide the first comparative examination of the education levels, business ownership, and business performance of Asian immigrants. We specifically compare the effects of education and other determinants of business ownership and performance in the three countries to help explain the heterogeneity across Asian immigrant groups within countries and across countries.

Asian immigrants to all three countries have education levels that are higher than the national average, and in the United States the education levels of Asian immigrants are particularly high relative to the entire population. Some of the variation in the education of Asian immigrants across the United States, Canada, and the United Kingdom is likely due to immigration policy. For example, the United Kingdom is more likely to accept immigrants in the refugee or asylee category than the other two countries. We find that business ownership rates of Asian immigrants in the United States and Canada are similar to the national average and in the United Kingdom are substantially higher than the national average and highest among all three countries. The broad average across Asian immigrants masks substantial heterogeneity within Asian immigrant groups, however. Koreans in Canada and the United States have high rates of business ownership, while Philipinos in both countries have low rates of business ownership. On average, business income of Asian immigrant business owners is only slightly above the national average (in the United States) or below the national average (in Canada) and is thus not the broad picture of success that is often portrayed. Again, there is substantial heterogeneity among Asian immigrant groups, and common to both the United States and Canada is high business income of Indians relative to the national average.

Estimates from regression models for business ownership, log business income, and employment reveal interesting differences across the three countries. In particular, high education is found to be a positive, although not strong, determinant of business ownership in the United States and Canada, but not in the United Kingdom. When we examine business income, we find large, positive effects of education in the United States and Canada. In the United Kingdom, we find smaller positive effects of high education on employment. The findings for education imply that the relatively high levels of education among some Asian immigrant groups do not have a large influence on business ownership rates for the groups, but have a large effect on business performance at least in the United States and Canada. We find this to be the case: in regression models for business ownership the coefficients on Asian immigrant groups generally do not change after controlling for education and other demographic characteristics. In contrast, we find large changes in coefficients for log business income in the United States and Canada after controlling for education and other variables suggesting that

education differences are important. Decomposition estimates indicate that high levels of education contribute to higher business income levels among Indians and Pakistanis in the United States.

Another interesting finding from the analysis is that Asian immigrants even from the same source country are generally much more educated in the United States than in Canada or the United Kingdom. For example, 76.2 percent of Indian immigrants in the United States have a college degree, compared to 42.1 percent in Canada and 42.2 percent in the United Kingdom. Lower levels of education among Asian immigrants to the United Kingdom may partly be the result of the greater focus of immigration policy in the United Kingdom. In Canada, however, we would expect the point-based system of immigration to result in higher education levels among Asian immigrants than the United States. For every group except Koreans, Asian immigrants in the United States are more educated than those residing in Canada. Although there are many institutional, structural, and historical differences between the two countries that might be responsible, one possibility is that the higher returns to education in the United States result in a more selective immigrant pool.²⁰ We find that the returns to a college degree in business earnings are larger in the United States than in Canada. The returns to a college degree are also higher in the wage and salary sector in the United States than in Canada.

One area for future research that may further our understanding of Asian immigrant business ownership and success is to examine industry concentrations among Asian immigrant businesses across the three countries and how these patterns are related to educational differences. Businesses owned by different immigrant groups are found to concentrate in different industries, which may be related to their relative skills and selection. Examining the same immigrant groups in different countries reveals interesting patterns. For example, we find that Chinese immigrant businesses are heavily concentrated in hotels and restaurants in the United Kingdom (62 percent), but are less concentrated in this industry in the United States (29 percent) and Canada (13 percent) and are spread more across all industries. Another example is provided by Indians. In the United Kingdom, 42 percent of Indian-owned businesses are located in wholesale and retail trade, whereas 27 percent of Indian firms are located in this industry in the United States and 13 percent in Canada. The heavy industry concentrations of Chinese and Indian businesses in the United Kingdom may reflect more limited opportunities for these immigrants or relative advantage in these industries than exists for these groups in the United States and Canada.

20. Antecol, Cobb-Clark, and Trejo (2003) note the possibility that the more redistributive tax and benefit system and egalitarian wage structure in Canada might attract less skilled workers compared to the United States.

References

- Antecol, H., D. A. Cobb-Clark, and S. J. Trejo. 2003. Immigration policy and the skills of immigrants. *Journal of Human Resources* 38 (1): 192–218.
- Bauer, T. K., M. Lofstrom, and K. F. Zimmermann. 2000. *Immigration policy, assimilation of immigrants and natives' sentiments towards immigrants: Evidence from 12 OECD-countries*. IZA Discussion Paper no. 187. Bonn, Germany: Institute for the Study of Labor.
- Blinder, A. S. 1973. Wage discrimination: Reduced form and structural variables. *Journal of Human Resources* 8 (4): 436–55.
- Bonacich, E., and J. Modell. 1980. *The economic basis of ethnic solidarity in the Japanese American community*. Berkeley, CA: University of California Press.
- Borjas, G. 1986. The self-employment experience of immigrants. *Journal of Human Resources* 21 (Fall): 487–506.
- . 1993. Immigration policy, national origin, and immigrant skills: A comparison of Canada and the United States. In *Small differences that matter: Labor markets and income maintenance in Canada and the United States*, ed. D. Card and R. B. Freeman, 21–43. Chicago: University of Chicago Press.
- . 1995. Assimilation and changes in cohort quality revisited: What happened to immigrant earnings in the 1980s? *Journal of Labor Economics* 13 (2): 201–45.
- . 1999. *Heaven's door: Immigration policy and the American economy*. Princeton, NJ: Princeton University Press.
- Boyd, R. L. 1991. Inequality in the earnings of self-employed African and Asian Americans. *Sociological Perspectives* 34 (4): 447–72.
- Bruce, D., D. Holtz-Eakin, and J. Quinn. 2000. Self-employment and labor market transitions at older ages. Boston College Center for Retirement Research Working Paper no. 2000-13.
- Citizenship and Immigration Canada. 2007. Investors, entrepreneurs and self-employed persons. Available at: <http://www.cic.gc.ca/english/immigrate/business/index.asp> and <http://www.cic.gc.ca/english/immigrate/business/self-employed/index.asp>.
- Clark, K., and S. Drinkwater. 1998. Ethnicity and self-employment in Britain. *Oxford Bulletin of Economics and Statistics* 60 (3): 383–407.
- . 2000. Pushed out or pulled in? Self-employment among ethnic minorities in England and Wales. *Labor Economics* 7 (5): 603–28.
- . 2006. Changing patterns of ethnic minority self-employment in Britain: Evidence from census microdata. IZA Discussion Paper no. 2495. Bonn, Germany: Institute for the Study of Labor.
- Clark, K., S. Drinkwater, and D. Leslie. 1998. Ethnicity and self-employment earnings in Britain 1973–1995. *Applied Economic Letters* 5 (10): 631–34.
- Dudley, J., and P. Harvey. 2001. Control of immigration statistics: United Kingdom, 2000. United Kingdom: Immigration Research and Statistics Service.
- Fairlie, R. W. 2006. Entrepreneurship among disadvantaged groups: Women, minorities and the less educated. In *International handbook series on entrepreneurship*, vol. 2, ed. S. C. Parker, Z. J. Acs, and D. R. Audretsch. New York: Springer.
- Fairlie, R. W., and H. Krashinsky. 2006. Liquidity constraints, household wealth and entrepreneurship revisited. University of Toronto. Working Paper.
- Fairlie, R. W., and B. D. Meyer. 1996. Ethnic and racial self-employment differences and possible explanations. *Journal of Human Resources* 31 (Fall): 757–93.
- Fairlie, R. W., and A. Robb. 2008. *Race and entrepreneurial success: Black-, Asian-, and white-owned businesses in the United States*. Cambridge, MA: MIT Press.

- . 2009. Determinants of business success: An examination of Asian-owned businesses in the United States. *Journal of Population Economics*, forthcoming.
- Frenette, M. 2004. Do the falling earnings of immigrants apply to *self-employed* immigrants? *Labour* 18 (2): 207–32.
- Holtz-Eakin, D., D. Joulfaian, and H. S. Rosen. 1994. Entrepreneurial decisions and liquidity constraints. *RAND Journal of Economics* 25 (Summer): 334–47.
- Hout, M., and H. S. Rosen. 2000. Self-employment, family background, and race. *Journal of Human Resources* 35 (4): 670–92.
- Hurst, E., and A. Lusardi. 2004. Liquidity constraints, household wealth and entrepreneurship. *Journal of Political Economy* 112 (2): 319–47.
- International Monetary Fund (IMF). 2007. Representative exchange rates for selected currencies for January 2000. Available at: www.imf.org/external/np/fin/data/rms_mth.aspx?SelectDate=2000-01-31&reportType=REP.
- Johnson, P. J. 2000. Ethnic differences in self-employment among Southeast Asian refugees in Canada. *Journal of Small Business Management* 38 (4): 78.
- Kalnins, A., and W. Chung. 2006. Social capital, geography, and survival: Gujarati immigrant entrepreneurs in the U.S. lodging industry. *Management Science* 52 (2): 233–47.
- Kim, K., W. Hurh, and M. Fernandez. 1989. Intragroup differences in business participation: Three Asian immigrant groups. *International Migration Review* 23 (1): 73–95.
- Ley, D. 2006. Explaining variations in business performance among immigrant entrepreneurs in Canada. *Journal of Ethnic and Migration Studies* 32 (5): 743–64.
- Li, P. S. 1997. Self-employment among visible minority immigrants, white immigrants, and native-born persons in secondary and tertiary industries of Canada. *Canadian Journal of Regional Science* 20 (1–2): 103–17.
- . 2001. Immigrants' propensity to self-employment: Evidence from Canada. *International Migration Review* 35 (4): 1106–28.
- Light, I. 1972. *Ethnic enterprise in America*. Berkeley, CA: University of California Press.
- Lofstrom, M. 2002. Labor market assimilation and the self-employment decision of immigrant entrepreneurs. *Journal of Population Economics* 15 (1): 83–114.
- Mar, D. 2005. Individual characteristics vs. city structural characteristics: Explaining self-employment differences among Chinese, Japanese, and Filipinos in the United States. *Journal of Socio-Economics* 34 (3): 341–59.
- Metcalfe, H., T. Modood, and S. Virdee. 1996. *Asian self-employment: The interaction of culture and economics in England*. London: Policy Studies Institute.
- Min, P. G. 1993. Korean immigrants in Los Angeles. In *Immigration and entrepreneurship: Culture, capital, and ethnic networks*, in ed. I. Light and P. Bhachu, 185–204. New Brunswick, NJ: Transaction Publishers.
- Oaxaca, R. 1973. Male-female wage differentials in urban labor markets. *International Economic Review* 14 (October): 693–709.
- Parker, S. C. 2004. *The economics of self-employment and entrepreneurship*. Cambridge: Cambridge University Press.
- Parsons, C. R., R. Skeldon, T. L. Walmsley, and L. A. Winters. 2005. Quantifying the international bilateral movements of migrants. The World Bank and the Development Research Centre on Migration, Globalisation and Poverty at Sussex University. Unpublished Manuscript.
- Razin, E., and A. Langlois. 1996. Metropolitan characteristics and entrepreneurship among immigrants and ethnic groups in Canada. *International Migration Review* 30 (3): 703–27.

- Saxenian, A. 1999. *Silicon Valley's new immigrant entrepreneurs*. San Francisco: Public Policy Institute of California.
- . 2000. Networks of immigrant entrepreneurs. In *The Silicon Valley edge: A habitat for innovation and entrepreneurship*, ed. C.-M. Lee, W. F. Miller, and H. S. Rowen, 248–74. Stanford: Stanford University Press.
- Schuetze, H. J., and H. Antecol. 2006. Immigration, entrepreneurship and the Venture start-up process. *The life cycle of entrepreneurial ventures, international handbook series on entrepreneurship*, vol. 3, ed. S. Parker, 107–35. New York: Springer.
- UK Border and Immigration Agency. 2007. Law and policy: Part 6 persons seeking to remain in the United Kingdom. Available at: <http://www.ind.homeoffice.gov.uk/lawandpolicy/immigrationrules/part6>.
- US Citizenship and Immigration Services. 2007. Employment creation entrepreneur cases. Available at: <http://www.uscis.gov/propub/ProPubVAP.jsp?dockey=987fe2c6b1c3f9e6725655e39a26a247>.
- van der Sluis, J., M. van Praag, and W. Vijverberg. 2004. Education and entrepreneurship in industrialized countries: A meta-analysis. Tinbergen Institute Working Paper no. TI 03–046/3. Amsterdam: Tinbergen Institute.
- van Praag, M. 2005. Successful entrepreneurship: Confronting economic theory with empirical practice. Cheltenham, UK: E. Elgar.
- Wadhwa, V., A. Saxenian, B. Rissing, and G. Gereffi. 2007. America's new immigrant entrepreneurs. Duke Science, Technology, and Innovation Paper no. 23. Durham, NC: Duke University.
- Woroby, T. 2005. Should Canadian immigration policy be synchronized with US immigration policy? Lessons learned at the start of two centuries. *American Review of Canadian Studies* 35 (2): 247–65.
- Zissimopoulos, J., and L. Karoly. 2007. Work and well-being among the self-employed at older ages. Washington, DC: AARP Public Policy Institute.
- Zissimopoulos, J., N. Maestas, and L. Karoly. 2007. Retirement transitions of the self-employed in the United States and England. MRRC WP2007-155. Mercer Select.
- Zhou, M. 2004. Revisiting ethnic entrepreneurship: Convergencies, controversies, and conceptual advancements. *International Migration Review* 38 (3): 1040–74.